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Species Conservation Profiles

Species conservation profiles of a random sample of world spiders I: Agelenidae to Filistatidae

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Abstract

Background

The IUCN Red List of Threatened Species is the most widely used information source on the extinction risk of species. One of the uses of the Red List is to evaluate and monitor the state of biodiversity and a possible approach for this purpose is the Red List Index (RLI). For many taxa, mainly hyperdiverse groups, it is not possible within available resources to assess all known species. In such cases, a random sample of species might be selected for assessment and the results derived from it extrapolated for the entire group - the Sampled Red List Index (SRLI). With the current contribution and the three following

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papers, we intend to create the first point in time of a future spider SRLI encompassing 200 species distributed across the world.

New information

A sample of 200 species of spiders were randomly selected from the World Spider Catalogue, an updated global database containing all recognised species names for the group. The 200 selected species where divided taxonomically at the family level and the familes were ordered alphabetically. In this publication, we present the conservation profiles of 46 species belonging to the famillies alphabetically arranged between Agelenidae and Filistatidae, which encompassed Agelenidae, Amaurobiidae, Anyphaenidae, Araneidae, Archaeidae, Barychelidae, Clubionidae, Corinnidae, *Ctenidae*, Ctenizidae, Cyatholipidae, Dictynidae, Dysderidae, Eresidae and Filistatidae.

Introduction

The IUCN Red List of Threatened Species is the most widely used information source on the extinction risk of species (Lamoreux et al. 2003, Rodrigues et al. 2006, Mace et al. 2008 but see Cardoso et al. 2011, Cardoso et al. 2012). It is based on a number of objective criteria, which are relatively easy to apply when adequate information is available (IUCN 2001). The Red List has been used to raise awareness about threatened species, guide conservation efforts and funding, set priorities for protection, measure site irreplaceability and vulnerability and influence environmental policies and legislation (Gardenfors et al. 2001, Rodrigues et al. 2006, Mace et al. 2008, Martín-López et al. 2009).

One of the uses of the Red List is to evaluate and monitor the state of biodiversity and a possible approach for this purpose is the Red List Index (RLI). The RLI helps to develop a better understanding of which taxa, regions or ecosystems are declining or improving their conservation status. It provides policy makers, stakeholders, conservation practitioners and the general public with sound knowledge of biodiversity status and change and tools with which to make informed decisions. The RLI uses weight scores based on the Red List status of each of the assessed species. These scores range from 0 (Least Concern) to 5 (Extinct/Extinct in the Wild). Summing these scores across all species, relating them to the worst-case scenario - all species extinct and comparing two or more points in time gives us an indication of how biodiversity is doing. At a global level, the RLI has been calculated for birds (Butchart et al. 2004, Hoffman et al. 2010), mammals (Hoffman et al. 2011), amphibians (Hoffman et al. 2010), corals (Butchart 2010) and cycads (United Nations 2015).

For many taxa, mainly hyperdiverse groups, it is not possible within available resources to assess all known species. In such cases, a random sample of species might be selected for assessment and the results derived from it extrapolated for the entire group - the Sampled Red List Index (SRLI, Baillie et al. 2008). The SRLI is now being developed for

plants (Brummitt et al. 2015) and efforts towards a SRLI for butterflies (Lewis and Senior 2011) and Odonata are also in progress (Clausnitzer 2009).

Spiders currently comprise over 47000 species described at a global level (World Spider Catalog 2018). Of these, only 199 species (0.4%) have been assessed (www.redlist.org), of which the vast majority are from the Seychelles Islands or belong to the golden-orb weavers, Nephilidae (e.g. Kuntner et al. 2017). To these, a large number will be added in the near future, such as 55 species endemic to the Madeira and Selvagens archipelagos and 25 endemic to the Azores, all in Portugal (Cardoso et al. 2017, Borges et al. submitted). The vast majority of spiders assessed to date are therefore either regionally or taxonomically clustered and do not represent the group as a whole. With the current contribution and the three following papers, we intend to create the first point in time of a future spider SRLI encompassing 200 species distributed across the world.

Methods

A sample of 200 species of spiders were randomly selected from the World Spider Catalog (2018), an updated global database containing all recognised species names for the group. The 200 selected species were divided taxonomically at the family level and those familes were ordered alphabetically. In this publication, we present the conservation profiles of 46 species belonging to the families alphabetically arranged between Agelenidae and Filistatidae, which encompassed Agelenidae, Amaurobiidae, Anyphaenidae, Araneidae, Archaeidae, Barychelidae, Clubionidae, Corinnidae, *Ctenidae*, Ctenizidae, Cyatholipidae, Dictynidae, Dysderidae, Eresidae and Filistatidae.

Species data were collected from all taxonomic bibliography available at the World Spider Catalog (2018), complemented by data in other publications found through Google Scholar and georeferrenced points made available through the Global Biodiversity Information Facility (www.gbif.org) and also other sources (https://www.biodiversitylibrary.org; https://login.webofknowledge.com; http://srs.britishspiders.org.uk; http://symbiota4.acis.ufl.edu/scan/portal; https://lepus.unine.ch; http://www.tuite.nl/iwg/Araneae/SpiBenelux/?species; https://atlas.arages.de; https://arachnology.cz/rad/araneae-1.html; http://www.ennor.org/iberia/). Whenever possible, with each species record, we also collected additional information, namely habitat type and spatial error of coordinates.

For all analyses, we used the R package red - IUCN redlisting tools (Cardoso 2017). This package performs a number of spatial analyses based on either observed occurrences or estimated ranges. Functions include calculating Extent of Occurrence (EOO), Area of Occupancy (AOO), mapping species ranges, species distribution modelling using climate and land cover information, calculating the Red List Index for groups of species, amongst others. In this work, the EOO and AOO were calculated in one of two ways:

- for range restricted species, for which we assumed knowledge of the full range, these values were classified as observed, the minimum convex polygon encompassing all observations used to calculate the EOO and the 2 km x 2 km cells known to be occupied

and used to calculate the AOO. When the EOO was smaller than the AOO, it was made equal as per the IUCN guidelines (IUCN Standards and Petitions Subcommittee 2017).

- for widespread species or those for which we did not have confidence to know the full range, we performed species distribution modelling (SDM). This was done based on both climatic (Fick and Hijmans 2017) and landcover (Tuanmu and Jetz 2014) datasets, at an approximately 1x1 km resolution. Before modelling, the world layers were cropped to the region of interest to each species and reduced to four layers through a PCA to avoid overfitting. In addition, latitude and longitude were used as two extra layers to avoid the models predicting presences much beyond the known region following the precautionary principle. We then used the Maxent method (Phillips et al. 2006) implemented in the R package red. Isolated patches outside the original distribution polygon were excluded from maps to avoid overestimation of EOO and AOO values. All final maps and values were checked and validated by our own expert opinion. KMLs derived from these maps were also produced using the red package. The cells (2x2 km) predicted to be occupied were used to calculate the AOO. When the EOO was smaller than the AOO, it was made equal as per the IUCN guidelines (IUCN Standards and Petitions Subcommittee 2017).

To infer on possible changes in range and/or abundance and for forest species only, we have also consulted the Global Forest Watch portal (Global Forest Watch 2014), looking for changes in forest cover during the last 10 years that could have affected the species.

Species Conservation Profiles

Coelotes amamiensis Shimojana, 1989

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Agelenidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- Japan

Map of records (Google Earth): Suppl. material 1

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records, all in the 1980s (Shimojana 1989, it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 882

Range description: The species is known from the Ryukyu islands, namely Kikai, Yoron, Okierabu, Amami, Oshima, Suwanose and Nakanoshima, all in Japan (Shimojana 1989). The species distribution model predicts it could also be present at Akusekishima.

Extent of occurrence

EOO (km2): 17000

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): 1540

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): Population size and trend are unknown.

Subpopulations

Number of subpopulations: 8

Trend: Unknown

Severe fragmentation?: Unknown

Justification for fragmentation: The basis of the number of subpopulations is their predicted distribution in eight different islands. If some of the subpopulations, namely on smaller islands, are threatened, severe fragmentation is possible, although impossible to infer with existing data.

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Collected in rock crevices on cliffs (Shimojana 1989).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 6. Rocky areas (e.g. inland cliffs, mountain peaks)

Ecology

Size: 5.5-9 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Congeners build tube webs with which they capture prey. In the case of this species, the webs were always found in rock crevices (Shimojana 1989).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: At least part of the species range is inside protected areas, namely Amami Islands Forest Ecosystem Reserve and Prefectural Wildlife Protection Areas of Toshima, Oyama and Hyakunodai (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current population trends, habitat fidelity of the species and possible threats across its range.

Hololena hopi Chamberlin & Ivie, 1942

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Agelenidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Nearctic

Countries:

- United States

Map of records (Google Earth): Suppl. material 2

Basis of EOO and AOO: Unknown

Basis (narrative): There are only two records for the species, both from Arizona, SW USA (Chamberlin and Ivie 1942, GBIF Secretariat 2016a).

Min Elevation/Depth (m): 1344

Max Elevation/Depth (m): 1473

Range description: Only known from Arizona, around Prescott, collected in 1935 (Chamberlin and Ivie 1942) and from South West Region Experimental Station in Cochise County with no record date (GBIF Secretariat 2016a).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The habitat in Arizona is mostly desert and xeric shrublands (Olson et al. 2001). Otherwise, the preferred habitat of this species is unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 8.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are unknown. Congeners build tube webs with which they capture prey. Spiders of the family Agelenidae often live in grass and low vegetation but also in caves and buildings (Jocqué and Dippenaar-Schoeman 2006).

Threats

Threat type: Ongoing

Threats:

- 7.1. Natural system modifications - Fire & fire suppression

Justification for threats: There have been reports of over 1,000 to nearly 4,000 fires in Arizona between the years 2012 and 2017 (Global Forest Watch 2014). Fires are a

possible threat to the survival of this species, but since there are only two known records, the possible effects remain unknown.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: There are several protected areas in Arizona near the type locality where this species might occur, namely Castle Creek and Mazatzal Wilderness Areas (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Oramia occidentalis (Marples, 1959)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Agelenidae

Taxonomic notes: Quite possibly just a variation of *Oramia littoralis*, which is found on the southern sea shore of the South Island in New Zealand (pers. obs.).

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Oceanian

Countries:

- New Zealand

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Range description: Known from only one locality in Whero Island and all specimens (2 females, 1 immature male and 4 immatures) were collected on an unknown date before 1959 (Suppl. material 3, Marples 1959).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was found on sea cliffs and rocky offshore islands with scarce vegetation (Marples 1959).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 13.1. Marine Coastal/Supratidal - Sea Cliffs and Rocky Offshore Islands

Ecology

Size: 13.04 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Congeners build tube webs with which they capture prey.

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: Part of the islet where *O. occidentalis* was recorded is protected, namely Whero Rock Nature Reserve (UNEP-WCMC and IUCN 2017)

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.1. Research - Taxonomy
- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Since there is a possibility that this species is just a variation of *Oramia littoralis*, taxonomic clarification is essential. If it confirms as a valid species, then basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Amaurobius transversus Leech, 1972

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Amaurobiidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Nearctic

Countries:

- United States

Map of records (Google Earth): Suppl. material 4

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 242

Max Elevation/Depth (m): 242

Range description: A single specimen was collected at "4 mi S. Gorda," in "Redwood Canyon", California, USA, in 1960 (Leech 1972). As no further observations are available, the geographic range is considered unknown.

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The species was recorded from Redwood Canyon. The habitat in California is mostly desert and xeric shrublands (Olson et al. 2001). Otherwise, the preferred habitat of this species is unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 5.4 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Spiders of the family Amaurobiidae are ground-dwellers often living in dark places, building small tube webs with sometimes several retreats (Jocqué and Dippenaar-Schoeman 2006).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 2.1. Land/water management - Site/area management
- 2.2. Land/water management - Invasive/problematic species control

Justification for conservation actions: The species type locality and the surrounding area (a 10 km radius around it) seem to be included, at least in part, in Los Padres National Forest in California, USA. This is a protected area by US law. However, the range for this species is unknown and therefore it is not possible to assess if this species also exists outside of this National Forest. There is an area-based regional management plan: Los Padres National Forest Management Plan (USDA Forest Service 2005) and an invasive species control and prevention plan is in place (USDA Forest Service 2005).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Given the scarcity of information, the distribution of the species must first be researched. The ecology and possible threats to it are also unknown but information is needed before any other measures can be suggested.

Callobius pauculus Leech, 1972

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Amaurobiidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Nearctic

Countries:

- United States

Map of records (Google Earth): Suppl. material 5

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 1376

Max Elevation/Depth (m): 1376

Range description: This species has only been collected from one site, Tehama County in California, on only one occasion in 1968 (Leech 1972).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The type locality of the species is in a temperate forest (largely montane forest) in central California, in the middle of the Mendocino National Forest. This forest is in a protected region in the US and is being managed for conservation (USDA Forest Service 1995). However, there has been considerable logging and planted forest growth in the area, resulting in a slight loss in native forest cover over the past 10 years (Global Forest Watch 2014).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.4. Forest - Temperate

Ecology

Size: 9-10 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Spiders of the family Amaurobiidae are ground-dwellers often living in dark places building small tube webs, often with several retreats (Jocqué and Dippenaar-Schoeman 2006).

Threats

Threat type: Ongoing

Threats:

- 2.2. Agriculture & aquaculture - Wood & pulp plantations

Justification for threats: This species' type locality is within the Mendocino National Forest, which is managed by the USDA Forest Service. The Mendocino National Forest Ecological Restoration Plan (USDA Forest Service 2013) projected that 15,500 cubic feet of timber from the forest will be harvested. This logging may impact the probability of extinction of the species.

Conservation

Conservation action type: In Place

Conservation actions:

- 2.1. Land/water management - Site/area management
- 2.2. Land/water management - Invasive/problematic species control

Conservation action type: Needed

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: This species is known only from its type locality (Leech 1972), a temperate forest within the Mendocino National Forest. The preferred habitat, population size, range and other ecological data are unknown. However, the Mendocino National Forest has certain areas logged for timber sale (USDA Forest Service 2013) and this may affect the species' extinction risk. An area-based regional management plan (USDA Forest Service 1995) and an invasive species control plan are in place (USDA Forest Service 2006).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Thaloe ennery Brescovit, 1993

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Anyphaenidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Haiti

Map of records (Google Earth): Suppl. material 6

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 352

Max Elevation/Depth (m): 352

Range description: Known only from the type locality in Ennery, Haiti, recorded in 1934 (Brescovit 1993).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Ennery is located in the Northwest biogeographic area of Hispaniola Island. Encompassing the Massif du Nord, an extension of the Cordillera Central, where tropical and subtropical moist broadleaf forest occurs with some calcareous outcrops (Carmona and Ortiz 2012).

Trend in extent, area or quality?: Decline (estimated)

Justification for trend: Haiti has suffered from deforestation for agriculture, whose production has not been able to keep up with the increased population density and migration (Dolisca et al. 2007). Also, illegal tree-harvesting along with a complex land tenure system and lack of off-farm opportunities are considered as potential reasons behind severe deforestation (Carmona and Ortiz 2012, Dolisca et al. 2007).

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 4.8 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Spiders of the family Anyphaenidae are usually active nocturnal hunters. They live in foliage and leaf litter and build a tube-like retreat with silk (Jocqué and Dippenaar-Schoeman 2006). Retreats of anyphaenids are usually in crevices or under rocks (Dippenaar-Schoeman and Jocqué 1997). In the region, a few species are known to live in the intertidal zone (Ramírez 2003) or grasslands (Labarque et al. 2015), while the majority of species are known to be arboreal (Brescovit 1997).

Threats

Threat type: Ongoing

Threats:

- 2.3.4. Agriculture & aquaculture - Livestock farming & ranching - Scale Unknown/ Unrecorded

Justification for threats: Haiti has a high population density and a forest cover estimated at 32% of the original cover. Natural resources have undergone severe depletion and degradation and the land cover has changed remarkably during the last decade. Forest cover has been decreasing resulting from the increase in cultivated areas (Dolisca et al. 2007). Since this species probably lives in the foliage and amongst leaf litter in the forests, deforestation can be considered as a plausible threat to its survival.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection

Conservation action type: Needed

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 6.1. Livelihood, economic & other incentives - Linked enterprises & livelihood alternatives

- 4.3. Education & awareness - Awareness & communications

Justification for conservation actions: This species single known locality is close to the Parc National La Citadelle, Sans Souci, Ramiers, where it might also occur (UNEP-WCMC and IUCN 2017). Since Haiti is experiencing severe deforestation, more attention should be paid to conservation actions intending to protect and manage the remaining forest habitats. In addition, educating people would also contribute to conservation actions. Haiti seems to lack alternatives for farming, therefore livelihood alternatives should be taken into consideration (Dolisca et al. 2007).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know the current distribution of this species and whether the habitat decline causes population decline. Further research is also needed to know current population trends, ecology and traits of the species along with threats.

Timbuka meridiana (L. Koch, 1866)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Anyphaenidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Colombia

Map of records (Google Earth): Suppl. material 7

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 2478

Max Elevation/Depth (m): 2478

Range description: There is only one record known for Colombia in 1866, however, the specific locality is unknown (Brescovit 1997).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was recorded from an unspecified locality. Therefore, the specific habitat is unknown. In general, Colombia belongs to the ecoregion of tropical and subtropical moist broadleaf forests, but grasslands, savannahs and shrublands can also be found in the northern parts of the country (Olson et al. 2001).

Trend in extent, area or quality?: Unknown

Habitat importance: Suitable

Habitats:

- 18. Unknown

Ecology

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Spiders of the family Anyphaenidae are usually active nocturnal hunters. They live in foliage and leaf litter and build a tube-like retreat with silk (Jocqué and Dippenaar-Schoeman 2006). Retreats of anyphaenids are usually in crevices or under rocks (Dippenaar-Schoeman and Jocqué 1997). In the region, a few species are known to live in the intertidal zone (Ramírez 2003) or to commonly inhabit grasslands (Labarque et al. 2015), while the majority of species are known to be arboreal (Brescovit 1997).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats.

Wulfila fragilis Chickering, 1973

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Anyphaenidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Panama

Map of records (Google Earth): Suppl. material 8

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 63

Max Elevation/Depth (m): 6

Range description: This species was recorded prior to 1937 from Barro Colorado Island, Panama Canal Zone (Chickering 1937).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The type locality, Barro Colorado, is a lowland tropical moist forest (Olson et al. 2001).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 3.13 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Spiders of the family Anyphaenidae are usually active nocturnal hunters. They live in foliage and leaf litter and build a tube-like retreat with silk (Jocqué and Dippenaar-Schoeman 2006). The closely related species *Wulfila alba* Platnick, 1974 from America north of Mexico has been collected in pitfalls, Malaise traps and sweeping, indicating that this group might occur in a broad range of vegetation strata (Platnick 1974).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Wulfila inornatus (O. P.-Cambridge, 1898)

Species information

Synonyms: *Cargus inornatus* (O. P.-Cambridge, 1898)

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Anyphaenidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Mexico

Map of records (Google Earth): Suppl. material 9

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 34

Max Elevation/Depth (m): 828

Range description: Known from Chiapas and Tabasco in Mexico (Pickard-Cambridge 1900, Hajian-Forooshani et al. 2014), *W. inornatus* was one of the most abundant spider species in several coffee plantations in Chiapas (Hajian-Forooshani et al. 2014), which

suggests that its range may expand to other coffee production regions. However, another study of spider diversity in Mexican coffee plantations only detected *Wulfila* sp. (potentially *W. inornatus*) as a co-dominant species (with *Leucage argyra*) in the rainy season and in only one of the three studied plantations (Pinkus Rendón et al. 2006).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist, although *W. inornatus* was one of the most abundant spider species in several coffee plantations in Chiapas, Mexico (Hajian-Forooshani et al. 2014) which suggests it might be a common species locally.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been recorded from coffee plantations (Hajian-Forooshani et al. 2014).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 14.3. Artificial/Terrestrial - Plantations

Ecology

Size: 4.75 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Spiders of the family Anyphaenidae are usually active nocturnal hunters. They live in foliage and leaf litter and build a tube-like retreat with silk (Jocqué and Dippenaar-Schoeman 2006). Specimens of this particular species were collected by shaking the branches of coffee plants (Hajian-Forooshani et al. 2014).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Important

Ecosystem services:

- 12. Biocontrol

Justification for ecosystem services : In Mexico, *W. inornatus* has been recorded from several coffee plantations in Chiapas (Hajian-Forooshani et al. 2014) where spiders potentially play an important role in controlling the abundance of pests.

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Alpaida alticeps (Keyserling, 1879)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Uruguay
- Brazil

Map of records (Google Earth): Suppl. material 10

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Levi 1988), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 2054

Range description: The species is reasonably well collected for a Neotropical orbweaver and its range is quite large (compared to the range of other *Alpaida* species, Levi 1988).

Extent of occurrence

EOO (km2): 1137583

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 621788

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats.

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species occurs in tropical rainforest in a wide area of southern Brazil and Uruguay, including but not limited to the Atlantic coastal forest (Levi 1988).

Trend in extent, area or quality?: Stable

Justification for trend: There is no continuing decline in area, extent and/or quality of habitat (estimated). The Global Forest Watch (Global Forest Watch 2014) estimates loss and gain of forest roughly equal within the species EOO.

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 8.2-17.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids, in general, are orb-weavers building a sticky web, waiting for their prey in the web and attacking by spin-wrapping (Dippenaar-Schoeman and Jocqué 1997). Amongst *Alpaida*, the webs and habits are more diverse than in other araneids since they are often vertical with a variation of different designs between species (Levi 1988).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: There are several protected areas within the range of this species in both Brazil and Uruguay (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.5. Research - Threats
- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends of the species and possible unrecorded threats across its range.

Alpaida veniliae (Keyserling, 1865)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Guyana
- French Guiana
- Suriname
- Uruguay
- Paraguay
- Peru

- Trinidad and Tobago
- Guatemala
- Belize
- Panama
- Brazil
- Chile
- Colombia
- Ecuador
- Argentina
- Mexico
- Costa Rica
- Honduras
- Nicaragua
- Bolivia, Plurinational States of
- Venezuela, Bolivarian Republic of

Map of records (Google Earth): Suppl. material 11

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Keyserling 1865, Levi 1988, Liljesthröm et al. 2002, Saavedra et al. 2007, Pinzon et al. 2010, GBIF Secretariat 2017), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 2889

Range description: This species should be present in a wide area spanning South and Central America (Keyserling 1865, Levi 1988, Liljesthröm et al. 2002, Saavedra et al. 2007, Pinzon et al. 2010, GBIF Secretariat 2017).

Extent of occurrence

EOO (km2): 29200662

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 11422508

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): This species has been reported from soybean fields (Liljesthröm et al. 2002), rice fields (Saavedra et al. 2007), coffeee and orange plantations, sugarcanes, as well as less disturbed habitats such as tropical dry rain forests, swampy pond floating vegetation and swamp plants, including *Eichhornia crassipes* (Levi 1988).

Trend in extent, area or quality?: Stable

Habitat importance: Major Importance

Habitats:

- 1.5. Forest - Subtropical/Tropical Dry
- 1.8. Forest - Subtropical/Tropical Swamp
- 5.4. Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands
- 14.3. Artificial/Terrestrial - Plantations

Ecology

Size: 6.3-12.9 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): The orb-web of *Alpaida veniliae* can reach 40 cm in diameter and, at night, the spider rests at its hub, the females tangling the egg-sac to vegetation. This species feeds mainly on Cercopidae, Cicadellidae, Pyralidae, Diptera and immature Orthoptera and it has been observed to be a prey of wasps (Levi 1988).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: Many parts of this species range are within protected areas (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Important

Ecosystem services:

- 12. Biocontrol

Justification for ecosystem services : This species might be an important component of the predator fauna of pests on agricultural fields (Liljesthröm et al. 2002).

Research needed:

- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends.

Araneus camilla (Simon, 1889)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Indomalayan

Countries:

- Pakistan
- India

Map of records (Google Earth): Suppl. material 12

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 199

Max Elevation/Depth (m): 206

Range description: This species has been recorded from two sites, Deota in India prior to 1889 (Simon 1889) and Lahore in Pakistan prior to 1935 (Dyal 1935).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been recorded from the vicinity of cities, Lahore and Deota, the latter being surrounded by extensive farmland and being located on the floodplains of the Yamuna River, just south of New Delhi.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 14.5. Artificial/Terrestrial - Urban Areas

Ecology

Size: 5.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids, in general, are orb-weavers building a sticky web where they wait for prey and attack by spin-wrapping (Dippenaar-Schoeman and Jocqué 1997). Otherwise, the ecology and traits of this particular species are unknown.

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Araneus praedatus (O. P.-Cambridge, 1885)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Indomalayan

Countries:

- Pakistan
- India

Map of records (Google Earth): Suppl. material 13

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 1738

Max Elevation/Depth (m): 2896

Range description: This species was recorded from a single locality between the Sind Valley in India and the Murree in Pakistan prior to 1885 (Pickard-Cambridge 1885).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The known locality of this species overlaps with high altitude mountainous areas, which are known to contain many glacier fed streams, with green forests of pine, fir and alpine meadows in Sind Valley (Qamar et al. 2011, Olson et al. 2001). Otherwise, the specific habitat is unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 4.7. Grassland - Subtropical/High Altitude

Ecology

Size: 2.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids in general are orb-weavers building a sticky web. They wait for their prey in the web and attack by spin-wrapping (Dippenaar-Schoeman and Jocqué 1997). Otherwise, ecology and traits of this particular species are unknown.

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: We should note that this species has not been recorded for the last 130 years. Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Cyclosa bianchoria Yin, Wang, Xie & Peng, 1990

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- Viet Nam
- India
- Myanmar
- China
- Taiwan, Province of China

Map of records (Google Earth): Suppl. material 14

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Yin et al. 1990, Chen and Gao 1990, GBIF Secretariat 2016d), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 3890

Range description: This species was last recorded in 2000 (GBIF Secretariat 2016d), originally found in Mangshan Yizhang County, Hunan (Yin et al. 1990). It has also been reported from Guanxi, Fujian, Guizhou, Sichuan, Shandong, Henan and Taiwan. The model predicts adequate habitats also in India, Myanmar and Viet Nam.

Extent of occurrence

EOO (km2): 2292341

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 1202064

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species.

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been found in mountain plantations of tea, between the crops and trees (Chen and Gao 1990). It has been recorded from the mountainous Sichuan to Fujian located on the coast, which indicates it lives in various habitat types within the ecoregion of tropical and subtropical moist broadleaf forests (Olson et al. 2001).

Trend in extent, area or quality?: Stable

Habitat importance: Major Importance

Habitats:

- 14.1. Artificial/Terrestrial - Arable Land
- 14.3. Artificial/Terrestrial - Plantations

Ecology

Size: 3.3-7.6 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids, in general, are orb-weavers building a sticky web, waiting for their prey in the web and attacking by spin-wrapping. Spiders of the genus *Cyclosa* usually build the web in shrubs and often in open woodlands (Dippenaar-Schoeman and Jocqué 1997). These are small orbicular webs rebuilt every day. These spiders are known to use prey carcasses as decorations in their webs, following vertical lines, which help disguise the spider from possible predators (Chen and Gao 1990, Chou et al. 2005, Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends.

Cyclosa nevada Levi, 1999

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Colombia

Map of records (Google Earth): Suppl. material 15

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 49

Max Elevation/Depth (m): 49

Range description: There is only one record known for Colombia in Sierra Nevada de Santa Marta. However, the species is probably distributed across the northern Colombia mountains (Levi 1999).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was found in moist debris and mosses, low growth vegetation, roadside vegetation, pastures with shrubs and conifer forests (*Cupressus* sp.) (Levi 1999).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.9. Forest - Subtropical/Tropical Moist Montane
- 3.5. Shrubland - Subtropical/Tropical Dry

Ecology

Size: 2.9-6.8 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids, in general, are orb-weavers building a sticky web, waiting for their prey in the web and attacking by spin-wrapping. Spiders of the genus *Cyclosa* usually build the web in shrubs and often in open woodlands (Dippenaar-Schoeman and Jocqué 1997). These are small orbicular webs rebuilt every day. These spiders are known to use prey carcasses as decorations in their webs, following vertical lines, which help disguise the spider from possible predators (Chen and Gao 1990, Chou et al. 2005, Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Ongoing

Threats:

- 2.3.2. Agriculture & aquaculture - Livestock farming & ranching - Small-holder grazing, ranching or farming
- 2.3.3. Agriculture & aquaculture - Livestock farming & ranching - Agro-industry grazing, ranching or farming
- 3.2. Energy production & mining - Mining & quarrying

Justification for threats: The species occurs in a UNESCO-MAB Biosphere Reserve (UNEP-WCMC and IUCN 2017) but efforts for its protection are not known (pers. obs.). Sierra Nevada de Santa Marta is an area where gold and other mining occurs, which could potentially affect the species. Besides resource extraction activities, agriculture and illicit crops may also affect the area (Global Forest Watch 2014).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 2.1. Land/water management - Site/area management

Conservation action type: Needed

Conservation actions:

- 2.1. Land/water management - Site/area management
- 5.4.2. Law & policy - Compliance and enforcement - National level

Justification for conservation actions: Despite the species occurring within a protected area, mining is an ongoing activity (Global Forest Watch 2014). Conservation initiatives such as increasing the protected area, limiting future mining operations and eradication of illicit crops and reforestation programmes in watersheds have been proposed under the environmental resource management plan of Sierra Nevada 2005-2009, however, enforcement mechanisms and continuing monitoring are not known (Unidad Administrativa Especial del Sistema de Parques Nacionales Naturales 2005).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, along with ecology, traits and possible threats.

Cyrtarachne hubeiensis Yin & Zhao, 1994

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- China

Map of records (Google Earth): Suppl. material 16

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 20

Range description: Known only from the type locality in Badong County, Hubei Province in China recorded in 1977 (Yin and Zhao 1994).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been recorded within the ecoregion of tropical and subtropical moist broadleaf forests (Olson et al. 2001). Otherwise, the specific habitat is unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 10.5 mm

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): Araneids in general are orb-weavers building a sticky web, waiting for their prey in the web and attacking by spin-wrapping (Dippenaar-Schoeman and Jocqué 1997). Spiders of the genus *Cyrtarachne* have been observed to feed mostly on moths. Their web structure is different from other Araneidae species, since it is a very sticky, horizontal orb-web and the spiral thread has a low shear joint and it is widely spaced (Miyashita et al. 2001). These spiders can capture a moth with a single thread (Robinson and Robinson 1975, Cartan and Miyashita 2000). Species from the same genus are reported from fields and grasslands where their main prey (moths) occur (Miyashita et al. 2001).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Gea spinipes Simon, 1901

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Indomalayan

Countries:

- Viet Nam
- Bangladesh
- Bhutan
- Cambodia
- Singapore
- Sri Lanka
- Thailand
- Nepal
- Lao People's Democratic Republic
- Malaysia
- India
- Indonesia
- Myanmar
- Hong Kong
- Korea, Republic of
- China
- Taiwan, Province of China

Map of records (Google Earth): Suppl. material 17

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Thorell 1890b, Workman and Workman 1894, Simon 1901, Levi 1983, Chang and Chang 1997, Yin et al. 1997, Siliwal et al. 2005Chakrabarti 2009, Benjamin et al. 2012, GBIF Secretariat 2016f), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 3444

Range description: This species is common and, based on records and species distribution modelling, it should be widespread throughout the Indomalaysian realm. Records are from Indonesia (Thorell 1890b), Singapore (Workman and Workman 1894), China (Chang and Chang 1997, Yin et al. 1997), Myanmar, Thailand (Levi 1983, GBIF Secretariat 2016f), India (Siliwal et al. 2005Chakrabarti 2009), Sri Lanka (Benjamin et al. 2012) and Lao People's Democratic Republic (GBIF Secretariat 2016f). There have also been two records for subspecies that should be considered with caution: *Gea spinipes*

nigrifons from Jalor, Bukit Besar (Simon 1901) which was then reviewed and referred to another locality in Yala, near Battani and Bukit Bekit, Jalor (Levi 1983).

Extent of occurrence

EOO (km2): 19812326

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 6217360

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species.

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This spider builds its web on low vegetation and weeds like *Parthenium*, *Chenopodium*, *Poa* and *Digitaria* (Chakrabarti 2009).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 4.5. Grassland - Subtropical/Tropical Dry

Ecology

Size: 7 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): This particular species is small and builds a geometrically symmetrical orb-web, whilst waiting for prey in its centre. The web is usually attached to weeds such as *Parthenium*, *Chenopodium*, *Poa* and *Digitaria* (Chakrabarti 2009).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: This is a widespread species and there are many protected areas within its range (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.1. Research - Taxonomy
- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to know current population and habitat trends. Also, the material from the only reported subspecies of this taxon, *Gea spinipes nigrifons*, has been lost and is dubiously georeferrenced (Levi 1983). This might prove to be a distinct and highly localised species, therefore taxonomic research is needed.

Larinia jeskovi Marusik, 1987

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- Kazakhstan
- Poland
- Romania
- Latvia
- Lithuania
- Belgium
- Croatia
- Czech Republic
- Denmark
- Estonia
- Finland
- Germany
- Slovakia
- Slovenia
- Sweden
- Austria
- Hungary
- Netherlands
- Norway
- Åland Islands
- Moldova
- Belarus
- Korea, Democratic People's Republic of
- Korea, Republic of
- France
- Russian Federation
- Ukraine
- China
- Japan

Map of records (Google Earth): Suppl. material 18

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Marusik 1986, Tanikawa 1989, Kupryjanowicz 1995, Szinetar 2000, Oliger et al. 2002), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 1338

Range description: This species should be present from Central Europe to Japan (Marusik 1986, Tanikawa 1989, Kupryjanowicz 1995, Szinetar 2000, Oliger et al. 2002).

Extent of occurrence

EOO (km2): 27888251

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 11648048

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species.

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): Known from reeds and reed wetlands (Szinetar 2000), marshes and grasslands (Kupryjanowicz 2003) and coastal sand dunes (Tanikawa 1989).

Trend in extent, area or quality?: Stable

Habitat importance: Major Importance

Habitats:

- 5.3. Wetlands (inland) - Shrub Dominated Wetlands
- 5.4. Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands
- 13.3. Marine Coastal/Supratidal - Coastal Sand Dunes

Ecology

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Species of the genus *Larinia* are usually collected from vegetation by sweeping. A species from the same genus, *Larinia directa*, tends to rest on

vegetation to the side of its web in the daytime and, in the night, it sits in the hub of the web (Harrod et al. 1990).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: This is a widespread species and there are many protected areas within its range (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.3. Research - Life history & ecology
- 1.5. Research - Threats
- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Basic research and monitoring is needed to know current population and habitat trends, ecology and traits of the species along with possible threats.

Mangora falconae Schenkel, 1953

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Trinidad and Tobago
- Panama
- Colombia
- Venezuela, Bolivarian Republic of

Map of records (Google Earth): Suppl. material 19

Basis of EOO and AOO: Observed

Basis (narrative): Despite a relatively high number of records (Schenkel 1953, Levi 2005, Levi 2007), the species distribution models were not found to be reasonable by our own expert opinion. Hence, only observed records are presented.

Min Elevation/Depth (m): 58

Max Elevation/Depth (m): 1285

Range description: This species is present from Venezuela to Panama (Schenkel 1953, Levi 2005, Levi 2007).

Extent of occurrence

EOO (km2): 638892

Trend: Stable

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): Specimens were found from a coastal thorn-scrub in Venezuela to unspecified plants in Colombia (Levi 2005) and deciduous forests in Trinidad and Tobago (Sewlal 2010).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland
- 3. Shrubland
- 13. Marine Coastal/Supratidal

Ecology

Size: 2.6-5.4 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): *Mangora* species are mainly diurnal orb-weavers making a fine, dense orb-web which has no retreat (Levi 2007).

Threats

Threat type: Past

Threats:

- 5.3. Biological resource use - Logging & wood harvesting

Justification for threats: There has been a loss of 17,400 ha in the forests of Trinidad & Tobago (between the years 2001 and 2015) where the species had been recorded from deciduous forests (Global Forest Watch 2014).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection
- 2.1. Land/water management - Site/area management

Justification for conservation actions: The records from Trinidad and Tobago are from inside Central Range Nature Reserve in Trinidad and Tobago and there are also several protected areas near the observed records where this species may occur (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know the current distribution, population trends, habitat fidelity and possible threats to the species across its range.

Metazygia enabla Levi, 1995

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Peru
- Brazil
- Colombia
- Ecuador
- Venezuela, Bolivarian Republic of

Map of records (Google Earth): Suppl. material 20

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Levi 1995a, Höfer and Brescovit 2001, Gonçalves-Souza 2005, Dias et al. 2006, Peres et al. 2007, Ricetti and Bonaldo 2008, Bonaldo et al. 2009, Rego et al. 2009, Pinzon et al. 2010, Nogueira 2011, Leite 2010, GBIF Secretariat 2016b), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 3064

Range description: This species is known from the Amazon region in Brazil, Colombia and Venezuela (Levi 1995a, Höfer and Brescovit 2001, Gonçalves-Souza 2005, Dias et al. 2006, Peres et al. 2007, Ricetti and Bonaldo 2008, Bonaldo et al. 2009, Rego et al. 2009, Pinzon et al. 2010, Nogueira 2011, Leite 2010, GBIF Secretariat 2016b). The species distribution model predicts it could also be present in Peru and Ecuador.

Extent of occurrence

EOO (km2): 6269611

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 1645444

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable, being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species inhabits the neblina area of the Amazon, the Amazon Basin flooding areas (Rego et al. 2009) and the Atlantic Forest (Dias et al. 2006, Peres et al. 2007). It has been reported from lowland tall evergreen forest with macrothermic climate

at 100 m a.s.l., to highland montane forest with submesothermic climate at 860 m (Nogueira 2011). It is known to occur also in open ombrophile forest (Ricetti and Bonaldo 2008), Amazonian rain forest (Höfer and Brescovit 2001, Bonaldo et al. 2009), in remnants of Atlantic forest mostly covered with a non-native *Eucalyptus* plantation (Gonçalves-Souza 2005) and in undisturbed flooded and terra firme forest (Pinzon et al. 2010).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland
- 5.2. Wetlands (inland) - Seasonal/Intermittent/Irregular Rivers/Streams/Creeks

Ecology

Size: 2.8-3.7 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): *Metazygia* species are nocturnal orb-weavers building a vertical orb web (Levi 1995a). They have a cylindrical silk retreat in which the spiders rest during the day (Levi 1995a). The retreat is often situated above the web in a branch, wall or curled leaf and some species remove their webs during the day, but most of them build it up again at night or early in the evening (Levi 1995a).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: This is a widespread species and there are many protected areas within its range (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.5. Research - Threats
- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Research and monitoring is needed to know current population and habitat trends of the species and possible threats across its range.

Metazygia octama Levi, 1995

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Taxonomic notes: Only females were ever recorded and according to Levi (1995a) "It is possible to have doubts and misplace *Metazygia* species if only a female is available". This species might therefore belong to a different genus.

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Peru
- Panama
- Colombia

Map of records (Google Earth): Suppl. material 21

Basis of EOO and AOO: Observed

Basis (narrative): Despite few records (Levi 1995a, GBIF Secretariat 2016c), the species distribution models were not found to be reasonable by our own expert opinion. Hence, only observed records are presented.

Min Elevation/Depth (m): 212

Max Elevation/Depth (m): 1349

Range description: This species has been reported from Colombia, Panama and Peru (Levi 1995a, GBIF Secretariat 2016c).

Extent of occurrence

EOO (km2): 316557

Trend: Stable

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): A female and immatures were collected at night on a roadside shrub near Cali, Colombia (Levi 1995a). Barro Colorado Island is covered by lowland tropical moist forest.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 5.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): *Metazygia* species are nocturnal orb-weavers building a vertical orb web. The web of *M. octama* appears to be fragile and spiders tend to tear down the web and feed on prey early at night. The spider rests in its retreat during the day and waits for prey in the centre of the web at night (Levi 1995a).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: The Peruvian record seems to be within Tambopata Nature Reserve, the Colombian records inside Los Farallones De Cali National Park and the Panamanian record within the area of Fortuna Forest Reserve and La Amistad National Park (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research and monitoring is needed to know the current distribution, population trends, habitat fidelity of the species and possible threats across its range.

Metepeira ventura Chamberlin & Ivie, 1942

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Nearctic
- Neotropical

Countries:

- Mexico
- United States

Map of records (Google Earth): Suppl. material 22

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records by Chamberlin and Ivie (1942), Ramirez and Haakonsen (1999), Piel (2001) and Ramirez et al. (2007), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 1688

Range description: This species range goes from Northern California and North-eastern Nevada in the USA to Baja California in Mexico (Levi 1977, Piel 2001). The sole southern Mexican record, from Agua Bendita, Guerrero (Ordóñez and Ramos 2017) was not included in our analysis as it is outside the known range and habitat. The northernmost record of this species, from Quin River Crossing, Nevada (Levi 1977), fell outside the species distribution modelling and was therefore not included in this species range,

although the model predicted the species likely occurs around Pyramid lake, inside Nevada state borders.

Extent of occurrence

EOO (km2): 1082170

Trend: Unknown

Justification for trend: Although this species bibliographical records show a reduction in its range since 1977 (Levi 1977) to the present day (Piel 2001, Ramirez and Haakonsen 1999, Ramirez et al. 2007), we cannot exclude the hypothesis that this reduction is mostly due to sampling bias.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 517812

Trend: Unknown

Justification for trend: Although this species bibliographical records show a reduction in its range since 1977 (Levi 1977) to the present day (Piel 2001, Ramirez and Haakonsen 1999, Ramirez et al. 2007), we cannot exclude the hypothesis that this reduction is mostly due to sampling bias.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been found on mustard, manzanita, California buckwheat and California sage within chaparral biomes (Levi 1977). The species has also been recorded from *Opuntia* cacti (Ramirez and Haakonsen 1999), *Rhus* sp., grasses (Ramirez and Fandino 1996) and along coastal hillsides (Ramirez et al. 2007).

Trend in extent, area or quality?: Decline (estimated)

Justification for trend: Mediterranean-type shrubland (chaparral) is more likely to burn as more humans continue to encroach on this habitat (Syphard et al. 2009). From 2001-2016, parts of the forests in California and other south-western states have been deforested (Global Forest Watch 2014). These forests are Mediterranean-type shrubland (chaparral) (Keeley and Davis 2007).

Habitat importance: Major Importance

Habitats:

- 3.4. Shrubland - Temperate
- 3.5. Shrubland - Subtropical/Tropical Dry
- 3.8. Shrubland - Mediterranean-type Shrubby Vegetation

Ecology

Size: 4.3-5.5mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): The species spins an orb-web in low vegetation, with an adjacent barrier web slightly to the side and above, wherein a cone-shaped retreat is placed. Egg sacs are placed within the retreat, which becomes progressively longer as egg sacs are added one by one over time, with the most recent on the bottom (Comstock 1948; Piel 2001; Ramirez et al. 2007). The preferred web site is typically unobstructed, rigid vegetation, such as dead or leafless branches, cacti, signposts or fences (e.g. Uetz and Burgess 1979). Members of *Metepeira* have an annual life cycle; spiderlings emerge in spring and adults may be collected from summer to early fall (autumn) (Levi 1977). Some species of the same genus were also reported to form colonial aggregations with 10 to 200 individuals (Piel 2001).

Threats

Threat type: Ongoing

Threats:

- 3.1. Energy production & mining - Oil & gas drilling
- 3.2. Energy production & mining - Mining & quarrying
- 6.3. Human intrusions & disturbance - Work & other activities
- 7.1. Natural system modifications - Fire & fire suppression

Justification for threats: The habitat in which this species has been found is mostly scrub land and chaparral, specifically on low-lying vegetation (Syphard et al. 2009). These habitats in South-western US and Mexico are being encroached upon by human settlements, which increases fire risk and frequency (Syphard et al. 2009). Many plant species - upon which this species builds its webs and lives inside (wrapped leaves - Levi 1977) are fire-sensitive and could be negatively-affected by an increase in fire frequency and extent (Syphard et al. 2009). There have been hundreds of large fires within this habitat in the last five years (Global Forest Watch 2014). This area is also heavily disturbed by mining and oil drilling, especially in northern Mexico (Global Forest Watch 2014).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection

Justification for conservation actions: There are several national parks, wilderness areas and other protected lands within this species range (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Ecosystem service type: Less important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: More information is needed on this species' life history, ecology, habitat and possible threats. According to bibliographical records, range reduction might have occurred, but resampling and monitoring historical sites would be needded to support this hypothesis.

Neoscona goliath (Benoit, 1963)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animaia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Panama

Map of records (Google Earth): Suppl. material 23

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 63

Max Elevation/Depth (m): 63

Range description: This species is known only from the type locality in Barro Colorado Island, Panama, recorded in 1962 (Benoit 1963).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The island of Barro Colorado is a completely forested moist lowland rainforest where most of the plants are evergreen (Leigh 1999).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 22.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Species of the genus *Neoscona* are one of the most common and abundant orb-weavers and occur in large numbers in the field. The silk-covered egg can be flattened or lens-shaped and the web is vertical with open hub and few threads towards the retreat (Berman and Levi 1971).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: Barro Colorado Island is protected as a natural monument (Leigh 1999 ,UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats.

Ocrepeira verecunda (Keyserling, 1865)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Colombia

Map of records (Google Earth): Suppl. material 24

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 200

Max Elevation/Depth (m): 200

Range description: The species was originally mentioned from N. Granada as a short handle for New Kingdom of Granada, a territory covering modern northern and central Colombia, almost all of Ecuador, Costa Rica, Panama, northern Venezuela and north-western Guyana (Keyserling 1865). However this record was early on, described as Colombian (Petrunkevitch 1911), by an author who might have had access to more detailed information about the specimens origin. This country of origin was followed by later works on the species (Levi 1993) and we can therefore assume that the single specimen might have originated from northern or central Colombia.

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was recorded from an unspecified locality. Therefore, the specific habitat is unknown. In general, Colombia belongs to the ecoregion of tropical and subtropical moist broadleaf forests, but grasslands, savannahs and shrublands can also be found in the northern parts of the country (Olson et al. 2001).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids, in general, are orb-weavers building a sticky web. They wait for their prey in the web and attack by spin-wrapping (Dippenaar-Schoeman and Jocqué 1997). *Ocrepeida* species have been reported to make a complete, nearly vertical orb web (Levi 1993).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know the current distribution and population size and trends, ecology and traits of the species along with possible threats.

Plebs cyphoxis (Simon, 1908)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Australasian

Countries:

- Australia

Map of records (Google Earth): Suppl. material 25

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Joseph and Framenau 2012), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 646

Range description: A common spider that should be present in Western Australia and South Australia, last recorded in 2007 (Joseph and Framenau (2012).

Extent of occurrence

EOO (km2): 2213761

Trend: Stable

Justification for trend: No continuing decline in EOO can be inferred given the common nature of the species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 599892

Trend: Stable

Justification for trend: No continuing decline in AOO can be inferred given the common nature of the species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species.

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Number of subpopulations: Unknown

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): Reported from shrubland habitats and open forests (Joseph and Framenau 2012).

Trend in extent, area or quality?: Stable

Habitat importance: Major Importance

Habitats:

- 3.4. Shrubland - Temperate
- 3.5. Shrubland - Subtropical/Tropical Dry
- 3.8. Shrubland - Mediterranean-type Shrubby Vegetation

Ecology

Size: 4.12-4.36 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Orb webs of *P. cyphoxis* can generally be found in low vegetation. The occurrence of adult *P. cyphoxis* peaks from September to November, although mature animals can be found earlier in the season and into February (Joseph and Framenau 2012).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: This is a relatively widespread species in the southern coast of Australia and there are many protected areas within its range (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends.

Tatepeira itu Levi, 1995

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Taxonomic notes: This species was tentatively placed in *Tatepeira* by (Levi 1995b).

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Brazil

Map of records (Google Earth): Suppl. material 26

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Based on bibliographical records (Levi 1995b) and species distribution modelling (Cardoso 2017).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 2703

Range description: This species should be present near the SE coast of Brazil, last recorded from Montenegro in 1977 (Levi 1995b).

Extent of occurrence

EOO (km2): 1226067

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): 720552

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The habitat within the range of this species in southern Brazil is mostly farmlands around floodplains within the ecoregion of tropical and subtropical moist broadleaf rainforests, grasslands, savannahs and shrublands (Olson et al. 2001). Members of the same genus described by Levi (1995b) in the same paper were found from low vegetation and grasslands.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 4.5. Grassland - Subtropical/Tropical Dry

Ecology

Size: 3.0-3.4 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Araneids, in general, are orb-weavers building a sticky web, waiting for their prey in the web and attacking by spin-wrapping (Dippenaar-Schoeman and Jocqué 1997). Otherwise, ecology and traits of this species are largely unknown and, in fact, there are no data on the web morphology for any of the species in the genus *Tatepeira* (Levi 1995b).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: There are several protected areas within the geographic range of the species, for example Serra do Mar Environmental Protection Area and Parque Estadual da Serra do Mar National Park in Brazil (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.1. Research - Taxonomy
- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: This species was tentatively placed in *Tatepeira* and therefore it would be relevant to validate the current genus placement. Also basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats. It should be mentioned that the species has not been seen since 1977 in a relatively well studied region and that a single locality in Montenegro drives the large extent in EOO and AOO.

Wagneriana yacuma Levi, 1991

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Araneidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Brazil
- Bolivia, Plurinational States of

Map of records (Google Earth): Suppl. material 27

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Only three records exist (Levi 1991, Buckup and Pinto-da-Rocha 1996). The species distribution models were not found to be reasonable by our own expert opinion. Hence, only observed records are presented.

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 2004

Range description: This species is present in Brazil and Bolivia, last recorded in 1992 (Levi 1991, Buckup and Pinto-da-Rocha 1996).

Extent of occurrence

EOO (km2): 235036

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was observed in vegetation in Bolivia (Levi 1991) and its known records occur in the tropical rainforest ecoregion (Olson et al. 2001).

Trend in extent, area or quality?: Decline (estimated)

Justification for trend: It is estimated that there was a net loss of 8,897,739 ha of forest between 2001-2015 only within the Mato Grosso region where the species has been recorded (Levi 1991).

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 7.5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Species of the *Wagneriana* genus produce a complete orbicular web without a retreat and wait hanging upside down at its centre (Levi 1991).

Threats

Threat type: Ongoing

Threats:

- 2.1. Agriculture & aquaculture - Annual & perennial non-timber crops

Justification for threats: Deforestation is a potential threat, although it is impossible to confirm with present data.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats.

Austrarchaea platnickorum Rix & Harvey, 2011

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Archaeidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Australasian

Countries:

- Australia

Map of records (Google Earth): Suppl. material 28

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 906

Max Elevation/Depth (m): 1234

Range description: This species is currently documented for a small geographic range within Eastern Australia. Although potentially restricted, it seems to be abundant within the World Heritage-listed New England National Park near Point Lookout (Rix and Harvey 2011).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been collected from elevated leaf litter under tussocky snow grass, *Nothofagus* rainforest and adjacent snow gum woodland. It has also been found in mesic closed forest habitats in the New England National Park of north-eastern New South Wales, Australia (Rix and Harvey 2011).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.9. Forest - Subtropical/Tropical Moist Montane

Ecology

Size: 3.28-4.31

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Some archaeids in the Afrotropical region have been observed living commonly on shrubs, the forest floor (Dippenaar-Schoeman and Jocqué 1997, Jocqué and Dippenaar-Schoeman 2006) and tree trunks (Kariko pers. obs.). Unlike most spiders that are generalists, archaeids are araneophagous - highly specialised hunters preying on other spiders. They have a unique morphology with their eight eyes elevated on a neck-like cephalic region often with cranial spines. They sweep their long front legs out and spear prey by swinging both long lance-like chelicerae out, stabbing the prey, then removing one chelicerae and raising the prey at nearly a ninety degree angle (Kariko pers. obs., Dippenaar-Schoeman and Jocqué 1997, Wood et al. 2012). Females lay only a few eggs and they are attached to the third leg. Spiderlings have been observed clinging to the mother's leg after hatching (Dippenaar-Schoeman and Jocqué 1997) as well as in a nursery web (Kariko pers. obs.).

Threats

Threat type: Ongoing

Threats:

- 7.1.1. Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity

Justification for threats: With the knowledge we have now, an environmental disaster such as a fire, could threaten this population since the species has been found in elevated leaf litter in the rainforest and adjacent snow gum woodland (Rix and Harvey 2011). Fires and landslips were reported in the New England National Park (Office of Environment and Heritage 2017).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Conservation action type: Needed

Conservation actions:

- 2.3. Land/water management - Habitat & natural process restoration
- 4.3. Education & awareness - Awareness & communications

Justification for conservation actions: This species has been recorded in the protected area of New England National Park of north-eastern New South Wales, Australia (Rix and Harvey 2011). Since fires form a major threat to the survival of this species, it would be appropriate to work on fire and habitat management and restoration to guarantee the possible recovery of habitat. Also education and awareness would be appropriate since this species has only been found to occur in a potentially restricted area (Rix and Harvey 2011).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats
- 2.2. Conservation Planning - Area-based Management Plan

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with threats. Conservation planning on area-based management plan, for instance, would be essential in case of a severe fire.

Zephyrarchaea marae Rix & Harvey, 2012

Species information

Common names: West Gippsland Assassin Spider (Rix and Harvey 2012)

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Archaeidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Australasian

Countries:

- Australia

Map of records (Google Earth): Suppl. material 29

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Rix and Harvey 2012), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 16

Max Elevation/Depth (m): 1530

Range description: This species should be present in Dandenong and Strzelecki Ranges of West Gippsland, east and south-east of Melbourne in Victoria, Australia (Rix and Harvey 2012).

Extent of occurrence

EOO (km2): 9897

Trend: Stable

Justification for trend: This species is relatively widespread in several National Parks and State Forests (Rix and Harvey 2012).

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 4640

Trend: Stable

Justification for trend: This species is relatively widespread in several National Parks and State Forests (Rix and Harvey 2012).

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Yes

Habitat (narrative): *Zephyrarchaea marae* is known only from temperate rainforest and mesic closed forests, particularly in *Nothofagus cunninghamii* rainforests, wet Mountain Ash forests, complex eucalypt forests and tree fern forest, some with thick understorey. Specimens were also found under tree fern amongst leaf litter (Rix and Harvey 2012).

Trend in extent, area or quality?: Stable

Justification for trend: This species occurs in several national parks and state forests (Rix and Harvey 2012).

Habitat importance: Major Importance

Habitats:

- 1.4. Forest - Temperate
- 1.9. Forest - Subtropical/Tropical Moist Montane

Ecology

Size: 3-3.95 mm

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): Spiders of the family Archaeidae are slow-moving, free-living, cryptozoic hunters living commonly on shrubs or forest floor (Dippenaar-Schoeman and Jocqué 1997; Jocqué and Dippenaar-Schoeman 2006) and the places where the specimens were found suggest that this species lives basically on the ground amongst leaf litter (Rix and Harvey 2011). Some archaeids in the Afrotropical region have been observed to be araneophagous. Females of Archaea lay only a few eggs and they are attached to the third leg where the spiderlings also cling on to after hatching. Remarkably long fangs can be used to impale their prey (Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Ongoing

Threats:

- 7.1. Natural system modifications - Fire & fire suppression

Justification for threats: From 3,000 to 8,000 fires have been reported between 2012 and 2017 in Victoria, Australia (Global Forest Watch 2014). The consequences on the species populations might be relevant for its survival.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: This species has a relatively widespread distribution in several National Parks and State Forests (Rix and Harvey 2012), namely in Dandenong Ranges National Park, Mount Worth State Park, Tarra-Bulga National Park and Gunyah Rainforest State Reserve.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends.

Aurecocrypta lugubris Raven, 1994

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Barychelidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Australasian

Countries:

- Australia

Map of records (Google Earth): Suppl. material 30

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Raven 1994), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 633

Range description: This species should be present in western Australia and in coastal parts of south Australia (Raven 1994).

Extent of occurrence

EOO (km2): 1262878

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 1056656

Trend: Stable

Justification for trend: Any definite range change over time was not available in the records, but we assume it to be stable being a widespread species.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species.

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Justification for trend: Widespread species with no known threats.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Number of subpopulations: Unknown

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Barychelids are commonly found from littoral and supralittoral zones but also from open sclerophyll forests, vine thickets and rainforests in Australia (Raven

1994). Given no recorded habitat data, the exact preferred habitat of this species remains unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 11 mm

Generation length (yr): 2

Dependency of single sp?: No

Ecology and traits (narrative): Barychelids are brushfooted trapdoor spiders, which live in burrows that can be quite complex, sealed with doors or in temporary silk cells (Dippenaar-Schoeman and Jocqué 1997, Raven 1994). The burrows are often not very deep. Barychelids have been observed to lay 20-80 eggs which are stored in a pillow-shaped sac. These spiders only disperse when juveniles leave the burrow (Raven 1994).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: At least part of the species range is inside protected areas, including Yellabinna Regional Reserve, Yambarra Conservation Park and Fitzgerald River National Park (UNEP-WCMC and IUCN 2017)

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends.

Mandjelia fleckeri Raven & Churchill, 1994

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Barychelidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Australasian

Countries:

- Australia

Map of records (Google Earth): Suppl. material 31

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 483

Max Elevation/Depth (m): 483

Range description: Known only from the type locality in Queensland, Australia near Townsville, recorded in 1991 (Raven 1994).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was recorded from an open forest. Congeners in general are usually found from rainforests (Raven 1994).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 13-17 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Barychelids are brushfooted trapdoor spiders, which live in burrows that can be quite complex, sealed with doors or in temporary silk cells (Dippenaar-Schoeman and Jocqué 1997, Raven 1994). The burrows are often not very deep. Some species of the genus *Mandjelia* have been reported to occur within vine thickets and the burrows between different *Mandjela* species vary; they can be tube-shaped, barrel-shaped or even Y-shaped with doors at every entrance. Barychelids have been observed to lay 20-80 eggs which are stored in a pillow-shaped sac. These spiders only disperse when juveniles leave the burrow (Raven 1994).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: The type locality is within a protected area, namely Bowling Green Bay Wetland of International Importance (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats.

Nihoa kaindi Raven, 1994

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Barychelidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Indomalayan

Countries:

- Viet Nam

Map of records (Google Earth): Suppl. material 32

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 10

Max Elevation/Depth (m): 10

Range description: Only known from the type locality, Mt Kaindi, South of Wau, recorded in 1979 (Raven 1994).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Number of subpopulations: Unknown

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species was recorded in montane rainforest (Mt Kaindi, altitude 2,388 m) (Raven 1994).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.9. Forest - Subtropical/Tropical Moist Montane

Ecology

Size: 8 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Barychelids are brushfooted trapdoor spiders, which live in burrows that can be quite complex, sealed with doors or in temporary silk cells (Dippenaar-Schoeman and Jocqué 1997, Raven 1994). The burrows are often not very deep. Barychelids have been observed to lay 20-80 eggs which are stored in a pillow-shaped sac. These spiders only disperse when juveniles leave the burrow (Raven 1994).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats.

Clubiona bifissurata Kritscher, 1966

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Clubionidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Australasian

Countries:

- New Caledonia

Map of records (Google Earth): Suppl. material 33

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 338

Max Elevation/Depth (m): 338

Range description: Known only from the type locality Col Boa, New Caledonia, recorded in 1965 (Kritscher 1966).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Subpopulations

Number of subpopulations: Unknown

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Known only from Niaouli forest in the bark of a Niaouli tree (*Melaleuca quinquenervia*).

Trend in extent, area or quality?: Unknown

Justification for trend: Niaouli trees (*Melaleuca quinquenervia*), also known as punk tree or paperbark tea trees are native to Australia, Papua New Guinea and New Caledonia, but their distribution is increasing outside their native range (Watt et al. 2009). However, it is not known if this species is limited to Niaouli trees or bark microhabitat and, therefore, it is not possible to measure if the recent expansion of *Melaleuca quinquenervia* has had any impact on increasing *Clubiona bifissurata* habitat.

Habitat importance: Major Importance

Habitats:

- 1.9. Forest - Subtropical/Tropical Moist Montane

Ecology

Size: 4.62 mm

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): *Clubiona* species are nocturnal hunters and build a sac-like retreat with open end, under bark or in curled-up leaves, where they stay during the daytime (Almquist 2006).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: Needed

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: In case this species is endemic to New Caledonian Niauoli forest, this habitat should be protected to ensure the species survival. Since there are no further records, we do not know if it occurs in a wider range across the island or other regions.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population size and trends, ecology and traits of the species along with possible threats.

Clubiona frisia Wunderlich & Schuett, 1995

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Clubionidae

Taxonomic notes: *Clubiona frisia* had been formerly confused with *C. similis* (Roberts 1995).

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- Georgia
- Turkey
- Poland
- Romania
- Latvia
- Liechtenstein
- Lithuania
- Luxembourg
- Belgium
- Czech Republic
- Denmark
- Estonia
- Germany
- Slovakia
- Slovenia
- Sweden
- Switzerland
- Austria
- Hungary
- Netherlands
- Norway
- Moldova

- Belarus
- France
- United Kingdom
- Italy
- Russian Federation
- Ukraine

Map of records (Google Earth): Suppl. material 34

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Almquist 1970, Locket et al. 1974, Roberts 1995, Wunderlich and Schütt 1995, Mikhailov 2002, Rozwalka 2005, Almquist 2006, Tsvetkov et al. 2006, Van Keer et al. 2010, Ponomarev and Komarov 2013, GBIF Secretariat 2016e), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 4088

Range description: This species is distributed from Europe to central Asia and its records are particularly widespread in Northern Europe (Almquist 1970, Locket et al. 1974, Roberts 1995, Wunderlich and Schütt 1995, Mikhailov 2002, Rozwalka 2005, Almquist 2006, Tsvetkov et al. 2006, Van Keer et al. 2010, Ponomarev and Komarov 2013, GBIF Secretariat 2016e). However, it should be noted that the European range of *C. frisia* remains unclear since this species is difficult to distinguish from the closely related *C. similis* (Mikhailov 2002).

Extent of occurrence

EOO (km2): 9396672

Trend: Unknown

Justification for trend: Although the species is widespread, its preferred dune habitat, at least in the UK, is suffering from human pressure. The impact of this pressure on the species is unknown.

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Area of occupancy

AOO (km2): 2038232

Trend: Unknown

Justification for trend: Although the species is widespread, at least in the UK, its preferred habitat, dune areas, is suffering from human pressure. The impact of this pressure on the species is unknown.

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Justification for trend: Widespread species with no known threats.

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Population Information (Narrative): The real population size and trend are unknown, but it is an abundant species in suitable habitat (e.g. Wunderlich and Schütt 1995, Roberts 1995, Almquist 2006).

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): *Clubiona frisia* has been recorded particularly from coastal sites on sand dunes amongst vegetation on hilly or mountainous terrains and beaches often with *Ammophila arenaria* (e.g. Wunderlich and Schütt 1995, Roberts 1995, Almquist 2006) and it seems to prefer sand dune habitats. However, it is suggested that *C. frisia* is not restricted to sandy habitats (Rozwalka 2005). This species has also been found in construction sites in urban areas (Van Keer et al. 2010).

Trend in extent, area or quality?: Unknown

Justification for trend: Although the species is widespread, at least in the UK, its preferred habitat, dune areas, is suffering from human pressure. The impact of this pressure on the species is unknown.

Habitat importance: Major Importance

Habitats:

- 13.3. Marine Coastal/Supratidal - Coastal Sand Dunes

Habitat importance: Suitable

Habitats:

- 14.5. Artificial/Terrestrial - Urban Areas

Ecology

Size: 5-7 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): *Clubiona frisia* is a nocturnal hunter which builds sac-like retreats with open ends, under bark or in curled-up leaves. In Sweden, adults occur all round the year preferring temperatures over 20ºC. Overwintering juveniles can survive in -21ºC for three days and adult females even at lower temperatures (Almquist 1970).

Threats

Threat type: Ongoing

Threats:

- 6.1. Human intrusions & disturbance - Recreational activities
- 6.3. Human intrusions & disturbance - Work & other activities

Threat type: Future

Threats:

- 11.1. Climate change & severe weather - Habitat shifting & alteration

Justification for threats: In the UK, this species has been recorded from only five hectares since 1992, with no evidence of decline (Dawson et al. 2017b) even though our SDM predicts suitable conditions in most of Great Britain. The species is recognised to be at risk from leisure use of its dune habitat, the construction of coastal defences and other infrastructure development (Dawson et al. 2017b). Sea level rises may cause a future threat to this species inhabiting sand dune sites. However, it has been suggested that *C. frisia* is not restricted to sandy habitats (Rozwalka 2005) and it has also been found on construction sites in urban areas (Van Keer et al. 2010).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Conservation action type: Needed

Conservation actions:

- 2.1. Land/water management - Site/area management

Justification for conservation actions: There are numerous protected areas within the range of this species (UNEP-WCMC and IUCN 2017). To ensure its survival, at least in the UK, it would be important to manage dune habitats to control leisure use and recreational pressure damage (Dawson et al. 2017b).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.5. Research - Threats
- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Distribution of this species needs to be confirmed, as it is difficult to distinguish from *C. similis* and therefore the true distribution of *C. frisia* remains unclear (Mikhailov 2002). Its occurrence in Mongolia needs to be confirmed. In addition, monitoring is needed to reveal current population and habitat trends and possible threats across its range.

Clubiona pyrifera Schenkel, 1936

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Clubionidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- China

Map of records (Google Earth): Suppl. material 35

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 513

Max Elevation/Depth (m): 1374

Range description: This species is only known from China, originally reported from Gansu (Schenkel 1936) and also known from Hubei (Mikhailov 1998). It is present also in Guangdong, Linan and "other regions" (Hu 1979, Hu 1984), with unspecified localities.

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Reported from paddy fields (Hu 1979) and forests (Hu 1984).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland
- 14.3. Artificial/Terrestrial - Plantations

Ecology

Size: 5-6.25 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Species of the genus *Clubiona* are nocturnal hunters and build a sac-like retreat with open end, under bark or in curled-up leaves, where they stay during the daytime (Almquist 2006).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know the current distribution and population size and trends, ecology and traits of the species along with possible threats.

Apochinomma nitidum (Thorell, 1895)

Species information

Synonyms: *Apochinomma ambiguum* (Thorell, 1897)

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Corinnidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Indomalayan
- Palearctic

Countries:

- Viet Nam
- Brunei Darussalam
- Cambodia
- Singapore
- Thailand
- Lao People's Democratic Republic
- Malaysia
- India
- Indonesia
- Myanmar
- China

Map of records (Google Earth): Suppl. material 36

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Thorell 1895, Thorell 1897, Deeleman-Reinhold 2001), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 2878

Range description: This species has been recorded in several localities in the eastern parts of Asia (Thorell 1895, Thorell 1897, Deeleman-Reinhold 2001) and should be present throughout South East Asia. *Apochinomma nitidum*'s widespread distribution, presence in secondary habitats and tolerance to human settlements is similar to known introduced species in the region, which suggest this species might occur on other continents as well (Deeleman-Reinhold 2001).

Extent of occurrence

EOO (km2): 10579413

Trend: Stable

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 4739936

Trend: Stable

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species. *Apochinomma nitidum* is a widespread species living near human habitation and in secondary habitats (Deeleman-Reinhold 2001).

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): This is a synanthropic species that lives on the ground and is often found on asphalt roads, pavement, terraces around houses or on the floors indoors. Some records have been made on swampy ground and from forest edge, which indicates this species can adapt to various habitat types (Deeleman-Reinhold 2001).

Trend in extent, area or quality?: Stable

Habitat importance: Major Importance

Habitats:

- 5.4. Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands
- 14.5. Artificial/Terrestrial - Urban Areas

Ecology

Size: 4-6 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Relatively small ant-mimicking spiders free-living on the ground. Dark sac spiders in the family Corinnidae (including *A. nitidum*) are active hunters and hide in a retreat made of leaves glued together, in a cocoon built under bark or inside the hollow parts of plants (Deeleman-Reinhold 2001).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: *Apochinomma nitidum* should occur in numerous protected areas across its range (Deeleman-Reinhold 2001).

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 3.1. Monitoring - Population trends

Justification for research needed: Monitoring is needed to confirm current population trends.

Corinna venezuelica (Caporiacco, 1955)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Corinnidae

Taxonomic notes: Only juveniles are known (Caporiacco 1955), hence species identity should be confirmed with adults.

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Venezuela, Bolivarian Republic of

Map of records (Google Earth): Suppl. material 37

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 1696

Max Elevation/Depth (m): 1696

Range description: Known only from El Junquito in Venezuela, recorded in 1949 (Caporiacco 1955).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Number of subpopulations: Unknown

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): El Junquito seems to be mostly forested with grassland patches and little human habitation and agriculture (see Suppl. material 37). Given no recorded habitat data, the preferred habitat of this particular species remains unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: Unknown

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Spiders of the family Corinnidae are active hunters, hiding in a retreat made of leaves glued together, in a cocoon built under bark or inside the hollow parts of plants (Deeleman-Reinhold 2001). They are commonly found in the leaf litter in shady deciduous forested areas (Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: The single record for this species is in the vicinity of a few protected areas, namely Macarao, El Avila National Parks and Area Metropolitana de Caracas protective zone in Venezuela, where it might occur (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.1. Research - Taxonomy
- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Clarification of taxonomic status is needed. If a valid species, basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Acantheis variatus (Thorell, 1895)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	*Ctenidae*

Taxonomic notes: Only juveniles are known, hence the taxonomic status is dubious.

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Indomalayan

Countries:

- Indonesia

Map of records (Google Earth): Suppl. material 38

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 91

Max Elevation/Depth (m): 91

Range description: This species has been recorded only once from the type locality in Bawo Lowalani of Pulau Nias Island, Indonesia, prior to 1890 (Thorell 1890a).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Number of subpopulations: Unknown

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Bawo Lowalani of Pulau Nias Island is tropical moist broadleaf forest (Olson et al. 2001).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: Unknown

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): Species of the family *Ctenidae* are nocturnal hunters which wander on the ground, on the soil surface or over the foliage, holding up their front legs while running. Females carry their egg sacs in their chelicerae or on the spinnerets but some species also store them on a solid surface (Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Ongoing

Threats:

- 2.3. Agriculture & aquaculture - Livestock farming & ranching

Justification for threats: There has been forest loss of 24,130 ha between 2001 and 2016 in Pulau Nias Island (Global Forest Watch 2014).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.1. Research - Taxonomy
- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Clarification of taxonomic status is needed. If a valid species, basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Phoneutria keyserlingi (F. O. P.-Cambridge, 1897)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	*Ctenidae*

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Brazil

Map of records (Google Earth): Suppl. material 39

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Eickstedt 1981, Martins and Bertani 2007), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 1497

Range description: This species is relatively well-recorded and is present across South East Brazil, in the Atlantic forest (Eickstedt 1981, Martins and Bertani 2007).

Extent of occurrence

EOO (km2): 1282190

Trend: Decline (inferred)

Justification for trend: Any definite range change over time was not available in the records, but the habitat is highly threatened.

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Area of occupancy

AOO (km2): 246648

Trend: Decline (inferred)

Justification for trend: Any definite range change over time was not available in the records, but the habitat is highly threatened.

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Decline (inferred)

Justification for trend: Any definite range change over time was not available in the records, but the habitat is highly threatened.

Basis for decline:

- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Number of subpopulations: Unknown

Trend: Unknown

Habitat

System: Terrestrial

Habitat specialist: Yes

Habitat (narrative): Present in the Atlantic rainforest of Brazil, a highly threatened habitat (Martins and Bertani 2007).

Trend in extent, area or quality?: Decline (inferred)

Habitat importance: Major Importance

Habitats:

- 1.6. Forest - Subtropical/Tropical Moist Lowland

Ecology

Size: 30 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Species of the family *Ctenidae* are nocturnal hunters which wander on the ground, on the soil surface or over the foliage, holding up their front legs while running. Females carry their egg sacs in their chelicerae or on the spinnerets but some species also store them on a solid surface (Dippenaar-Schoeman and Jocqué 1997). In the daytime, species of *Phoneutria* are found hiding in bromeliads, inside termite mounds, under fallen logs and rocks (Vellard 1936).

Threats

Threat type: Future

Threats:

- 3.2. Energy production & mining - Mining & quarrying

Threat type: Ongoing

Threats:

- 5.3. Biological resource use - Logging & wood harvesting

Justification for threats: Mining within the range of this species may be a possible future threat in case it critically affects suitable habitats (Global Forest Watch 2014). The Atlantic rainforest in Brazil is a highly threatened area with forest fragmentation and may cause a plausible threat to the survival of this species (https://www.sosma.org.br/projeto/atlas-da-mata-atlantica).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions: At least part of the species range is inside protected areas (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 3.1. Monitoring - Population trends
- 3.4. Monitoring - Habitat trends

Justification for research needed: Monitoring is needed to confirm current population and habitat trends across the species range. The species was never detected north of Nova Friburgo nor South of Florianopolis. However, the species distribution modelling predicts it is likely to occur up to 200 km north (Linhares) and 500 km south (Parque Nacional da Lagoa dos Peixes). Further research should be targeted at detecting and monitoring the species at these two sites.

Vulsor sextus Strand, 1907

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	*Ctenidae*

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Afrotropical

Countries:

- Madagascar

Map of records (Google Earth): Suppl. material 40

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 6

Max Elevation/Depth (m): 6

Range description: This species has been recorded only once prior to 1907 from the type locality in Majunga town, Madagascar (Strand 1907).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Majunga town in Madagascar belongs to the ecoregion of tropical and subtropical dry broadleaf forests (Olson et al. 2001). The area is now covered by human constructions. However, no habitat data is given for this species and therefore the specific habitat preferences remain unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 14 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Species of the family *Ctenidae* are nocturnal hunters which wander on the ground, on the soil surface or over the foliage, holding up their front legs while running. Females carry their egg sacs in their chelicerae or on the spinnerets but some species also store them on a solid surface (Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Stasimopus nanus Tucker, 1917

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Ctenizidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Afrotropical

Countries:

- South Africa

Map of records (Google Earth): Suppl. material 41

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 1405

Max Elevation/Depth (m): 1405

Range description: A Free State Province endemic only known from the type locality in Smithfield and last sampled before 1917 (Tucker 1917).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Montane grasslands and shrublands along with deserts and xeric shrublands dominate the type locality (Olson et al. 2001). Otherwise the specific habitat preferences remain unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 12 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): *Stasimopus nanus* is a trapdoor spider of the family Ctenizidae which lives in silk-lined burrows closed with a cork-lid door (Jocqué and Dippenaar-Schoeman 2006).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Ilisoa hawequas Griswold, 1987

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Cyatholipidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Afrotropical

Countries:

- South Africa

Map of records (Google Earth): Suppl. material 42

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 476

Max Elevation/Depth (m): 476

Range description: *Ilisoa hawequas* has been found in only one locality, in the Western Cape province of South Africa in 1973 (Griswold 1987).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): This species has been found only once in humus under dense undergrowth above a waterfall (Griswold 1987).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 3.5. Shrubland - Subtropical/Tropical Dry

Ecology

Size: Unknown

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): Species of the family Cyatholipidae, commonly known as tree sheetweb spiders, build a horizontal sheetweb from which they hang from. This sheetweb usually has a smaller sheet below in litter, tree trunks or tree foliage (Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Conservation

Conservation action type: In Place

Conservation actions:

- 1. Land/water protection
- 2. Land/water management

Justification for conservation actions: The species was found within the Hawequas mountain catchment area and the area is managed following the Mountain Catchment

Areas Act, which regulates the conservation and use of the land (UNEP-WCMC and IUCN 2017).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Argenna polita (Banks, 1898)

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Dictynidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Neotropical

Countries:

- Mexico

Map of records (Google Earth): Suppl. material 43

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 577

Max Elevation/Depth (m): 577

Range description: The species was described from one female, with no locality, but the publication title refers this species to Baja California and other parts of Mexico (Banks 1898).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Justification for extreme fluctuations: No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): Mexico and namely Baja California are mostly covered with xeric deserts and shrublands (Olson et al. 2001). However, the locality of this species is unspecified and therefore it is not possible to infer any specific habitat preference.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 4-5 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): Ecology and traits of this species are largely unknown. Species of the family Dictynidae have various life styles; some are plant-dwelling and build a ladder-like web with cribellate silk, other are ground-dwelling or even kleptoparasites (Jocqué and Dippenaar-Schoeman 2006).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Rhode baborensis Beladjal & Bosmans, 1996

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Dysderidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Afrotropical

Countries:

- Algeria

Map of records (Google Earth): Suppl. material 44

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Min Elevation/Depth (m): 1750

Max Elevation/Depth (m): 1900

Range description: This species was recorded in 1989 and suggested to be endemic to Mt. Babor (from 1750 to 1900 m a.s.l.) in Algeria (Beladjal et al. 1996) but it is likely that *R. baborensis* has a larger distribution and the reduced range of its records are due to scarce sampling (Marjan Komnenov, pers. comm.).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): All known specimens have been found in mixed forest of *Quercus ilex* and *Cedrus atlantica* at high altitude (Beladjal et al. 1996).

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 1.4. Forest - Temperate

Ecology

Size: 8.6-9.5 mm

Generation length (yr): 1

Dependency of single sp?: Unknown

Ecology and traits (narrative): Specimens were caught by pitfall traps in mixed forest which might indicate this is a troglophile species living in leaf litter or under stones (Marjan Komnenov, pers. comm.). Spiders of the family Dysderidae are nocturnal ground-dwelling spiders and hide in their retreat during daytime (Jocqué and Dippenaar-Schoeman 2006).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution and population trends, ecology and traits of the species along with possible threats.

Eresus kollari Simon, 1873

Species information

Common names: Ladybird spider

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Eresidae

Taxonomic notes: The taxonomic status of the species is unclear, with numerous closely related and morphologically similar species to be described (unpublished data).

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- Macedonia, the former Yugoslav Republic of
- Poland
- Romania
- San Marino
- Albania
- Liechtenstein
- Luxembourg
- Belgium
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Germany
- Slovakia
- Slovenia
- Switzerland
- Austria
- Hungary
- Netherlands
- Montenegro

- Moldova
- France
- Greece
- United Kingdom
- Italy
- Serbia
- Ukraine

Map of records (Google Earth): Suppl. material 45

Basis of EOO and AOO: Species Distribution Model

Basis (narrative): Given the relatively high number of records (Rossi 1846, Řezáč et al. 2008, *Buchholz and Schröder 2013*, Krause et al. 2013, *Kovács et al. 2015*, Krejčí et al. 2015, Zamani et al. 2014), it was possible to perform species distribution modelling (see methods for details).

Min Elevation/Depth (m): 0

Max Elevation/Depth (m): 3332

Range description: *Eresus kollari* is widely distributed in Europe (Rossi 1846, Řezáč et al. 2008, *Buchholz and Schröder 2013*, Krause et al. 2013, *Kovács et al. 2015*, Krejčí et al. 2015, Zamani et al. 2014). We should note however that the taxonomic status of the species is unclear and many of the records might be erroneous and referring to other, often undescribed, species.

Extent of occurrence

EOO (km2): 2917464

Trend: Stable

Justification for trend: According to the current records the trend seems to be stable. Yet, this species is in need of taxonomic clarification, which might affect its real range.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Area of occupancy

AOO (km2): 2133212

Trend: Stable

Justification for trend: According to the current records, the trend seems to be stable. Yet, this species is in need of taxonomic clarification, which might affect its real range.

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Locations

Number of locations: Unknown

Justification for number of locations: No known threats to the species.

Trend: Stable

Population

Number of individuals: Unknown

Trend: Stable

Causes ceased?: Yes

Causes understood?: Yes

Causes reversible?: Yes

Subpopulations

Trend: Stable

Habitat

System: Terrestrial

Habitat specialist: No

Habitat (narrative): This species lives predominantly on long growth dry grassland, some short growth, pseudo-maquis and reed belts (Buchholz and Schröder 2013), in rocky and saline steppes, in apline grasslands, pine forests on sand and birch woods (Řezáč et al. 2008).

Trend in extent, area or quality?: Stable

Habitat importance: Major Importance

Habitats:

- 1.1. Forest - Boreal
- 1.4. Forest - Temperate
- 4.4. Grassland - Temperate
- 6. Rocky areas (e.g. inland cliffs, mountain peaks)

Ecology

Size: 8-20 mm

Generation length (yr): 3

Dependency of single sp?: No

Ecology and traits (narrative): This species lives in camouflaged tube webs and feeds mostly on beetles (Baumann 1997). Females can use the same burrow for their whole life (Jones 1985) and therefore prey in the webs provide data on the prey captured by an individual during its lifetime (Zarcos and Piñero 2016). The life cycle of the ladybird spider lasts for 3–4 years (Kuznetsov 1985).

Threats

Threat type: Ongoing

Threats:

- 2.2. Agriculture & aquaculture - Wood & pulp plantations
- 5.1.1. Biological resource use - Hunting & trapping terrestrial animals - Intentional use (species is the target)
- 8. Invasive and other problematic species, genes & diseases

Justification for threats: Known threats for the species are wildlife traffic (for the pet trade) (pers. obs.) and habitat loss such as fragmentation in dry grasslands (Umann 1997). There may also be an impact caused by invasive species, such as *Linepithema humile*, specially in its southern range (Wetterer et al. 2009).

Conservation

Conservation action type: In Place

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Conservation action type: Needed

Conservation actions:

- 1.1. Land/water protection - Site/area protection
- 1.2. Land/water protection - Resource & habitat protection

Justification for conservation actions

There are numerous protected areas within the predicted range of this species (UNEP-WCMC and IUCN 2017). This species is threatened in several countries (e.g. Slovenia see Kuntner et al. 2017) and protected in several others (Belgium, Holland for instance) and there have been suggestions for specific conservation measures to protect it (e.g. Krause et al. 2011 and Laycock et al. 2009). Species from the same genus (namely *Eresus sandaliatus*) have also been considered endangered in several countries (Netherlands see Noordijk et al. 2008, Belgium see Van Keer et al. 2008) and are protected in England, for instance, and there is an agreement with the Forestry Commission on the conservation and management of the site where the closely related *E. sandaliatus* has been recorded (Dawson et al. 2017a).

Near Halle, in The Netherlands, *Eresus kollari* was observed only from large patches with warm microclimate while the isolated patches were significantly less occupied. To conserve this species, there is a need for protection of a relatively large area of suitable habitat (Umann 1997).

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.1. Research - Taxonomy
- 1.2. Research - Population size, distribution & trends
- 1.5. Research - Threats
- 3.1. Monitoring - Population trends

Justification for research needed: Taxonomic status clarification of this and related species is needed. The real population size and distribution need to be studied, along with possible threats. Some population trends need to be monitored.

Tricalamus jiangxiensis Li, 1994

Species information

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Filistatidae

Region for assessment:

- Global

Geographic range

Biogeographic realm:

- Palearctic

Countries:

- China

Map of records (Google Earth): Suppl. material 46

Basis of EOO and AOO: Unknown

Basis (narrative): Unknown EOO or AOO.

Range description: *Tricalamus jiangxiensis* is known from two localities in Jiangxi Province in China, recorded in 1990 (Li 1994).

Extent of occurrence

EOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Area of occupancy

AOO (km2): Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Locations

Number of locations: Unknown

Trend: Unknown

Population

Number of individuals: Unknown

Trend: Unknown

Causes ceased?: Unknown

Causes understood?: Unknown

Causes reversible?: Unknown

Extreme fluctuations?: Unknown

Population Information (Narrative): No population size estimates exist.

Subpopulations

Trend: Unknown

Extreme fluctuations?: Unknown

Severe fragmentation?: Unknown

Habitat

System: Terrestrial

Habitat specialist: Unknown

Habitat (narrative): The Jiangxi province is located within the ecoregion of tropical and subtropical moist broadleaf forests and temperate broadleaf and mixed forests (Olson et al. 2001). Otherwise, specific habitat preferences are unknown.

Trend in extent, area or quality?: Unknown

Habitat importance: Major Importance

Habitats:

- 18. Unknown

Ecology

Size: 3.2-5.1 mm

Generation length (yr): 1

Dependency of single sp?: No

Ecology and traits (narrative): The spiders of the family Filistatidae live in tube retreats built in rock cracks and walls. The female deposits the flattened egg sac in the retreat where it is covered with a silk layer (Dippenaar-Schoeman and Jocqué 1997).

Threats

Threat type: Past

Threats:

- 12. Other options - Other threat

Justification for threats: No known threats.

Other

Use type: International

Use and trade:

- 18. Unknown

Ecosystem service type: Very important

Research needed:

- 1.2. Research - Population size, distribution & trends
- 1.3. Research - Life history & ecology
- 1.5. Research - Threats

Justification for research needed: Basic research is needed to know current distribution in more detail and population size and trends, ecology and traits of the species along with possible threats.

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Supplementary materials

Suppl. material 1: Distribution of *Coelotes amamiensis* Shimojana, 1989

Authors: Cardoso, P.
Data type: Distribution
Filename: Coelotes amamiensis Shimojana, 1989.kml - Download file (21.64 kb)

Suppl. material 2: Distribution of *Hololena hopi* (Chamberlin & Ivie, 1942)

Authors: Cardoso, P.
Data type: Distribution
Filename: Hololena hopi (Chamberlin & Ivie, 1942).kml - Download file (7.60 kb)

Suppl. material 3: Distribution of *Oramia occidentalis* (Marples, 1959)

Authors: Cardoso, P.Cardoso, P.
Data type: Distribution
Filename: Oramia occidentalis (Marples, 1959).kml - Download file (4.08 kb)

Suppl. material 4: Distribution of *Amaurobius transversus* Leech, 1972

Authors: Cardoso, P.
Data type: Distribution
Filename: Amaurobius transversus Leech, 1972.kml - Download file (4.04 kb)

Suppl. material 5: Distribution of *Callobius pauculus* Leech, 1972

Authors: Cardoso, P.
Data type: Distribution
Filename: Callobius pauculus Leech, 1972.kml - Download file (4.04 kb)

Suppl. material 6: Distribution of *Thaloe ennery* Brescovit, 1993

Authors: Cardoso, P.
Data type: Distribution
Filename: Thaloe ennery Brescovit, 1993.kml - Download file (4.04 kb)

Suppl. material 7: Distribution of *Timbuka meridiana* (L. Koch, 1866)

Authors: Cardoso, P.

Data type: Distribution
Filename: Timbuka meridiana (L. Koch, 1866).kml - Download file (4.03 kb)

Suppl. material 8: Distribution of *Wulfila fragilis* Chickering, 1937 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Wulfila fragilis Chickering, 1937.kml - Download file (4.03 kb)

Suppl. material 9: Distribution of *Wulfila inornatus* (O. P.-Cambridge, 1898) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Wulfila inornatus (O. P.-Cambridge, 1898).kml - Download file (7.64 kb)

Suppl. material 10: Distribution of *Alpaida alticeps* (Keyserling, 1879) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Alpaida alticeps (Keyserling, 1879).kml - Download file (37.66 kb)

Suppl. material 11: Distribution of *Alpaida veniliae* (Keyserling, 1865) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Alpaida veniliae (Keyserling, 1865).kml - Download file (369.10 kb)

Suppl. material 12: Distribution of *Araneus camilla* (Simon, 1889) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Araneus camilla (Simon, 1889).kml - Download file (7.40 kb)

Suppl. material 13: Distribution of *Araneus praedatus* (O. P.-Cambridge, 1885) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Araneus praedatus.kml - Download file (3.97 kb)

Suppl. material 14: Distribution of *Cyclosa bianchoria* Yin et al, 1990 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Cyclosa bianchoria Yin et al, 1990.kml - Download file (89.27 kb)

Suppl. material 15: Distribution of *Cyclosa nevada* Levi, 1999 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Cyclosa nevada Levi, 1999.kml - Download file (4.04 kb)

Suppl. material 16: Distribution of *Cyrtarachne hubeiensis* Yin & Zhao, 1994 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Cyrtarachne hubeiensis Yin & Zhao, 1994.kml - Download file (3.94 kb)

Suppl. material 17: Distribution of *Gea spinipes* L. Koch, 1843 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Gea spinipes L. Koch, 1843.kml - Download file (230.30 kb)

Suppl. material 18: Distribution of *Larinia jeskovi* Marusik, 1987 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Larinia jeskovi Marusik, 1987.kml - Download file (1018.65 kb)

Suppl. material 19: Distribution of *Mangora falconae* Schenkel, 1953 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Mangora falconae Schenkel, 1953.kml - Download file (29.05 kb)

Suppl. material 20: Distribution of *Metazygia enabla* Levi, 1995 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Metazygia enabla Levi, 1995.kml - Download file (46.03 kb)

Suppl. material 21: Distribution of *Metazygia octama* Levi, 1995 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Metazygia octama Levi, 1995.kml - Download file (14.82 kb)

Suppl. material 22: Distribution of *Metepeira ventura* Chamberlin and Ivie, 1942 doi

Authors: Pedro Cardoso
Data type: Distribution
Filename: Metepeira ventura Chamberlin and Ivie, 1942.kml - Download file (63.19 kb)

Suppl. material 23: Distribution of *Neoscona goliath* (Benoit, 1963) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Neoscona goliath (Benoit, 1963).kml - Download file (4.03 kb)

Suppl. material 24: Distribution of *Ocrepeida verecunda* Levi, 1995 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Ocrepeida verecunda Levi, 1995.kml - Download file (4.03 kb)

Suppl. material 25: Distribution of *Plebs cyphoxis* (Simon, 1908) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Plebs cyphoxis (Simon, 1908).kml - Download file (47.10 kb)

Suppl. material 26: Distribution of *Tatepeira itu* Levi, 1995 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Tatepeira itu Levi, 1995.kml - Download file (2.16 MB)

Suppl. material 27: Distribution of *Wagneriana yacuma* Levi, 1991 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Wagneriana yacuma Levi, 1991.kml - Download file (11.49 kb)

Suppl. material 28: Distribution of *Austrarchaea platnickorum* Rix & Harvey, 2011 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Distribution of Austrarchaea platnickorum Rix & Harvey, 2011.kml - Download file (11.16 kb)

Suppl. material 29: Distribution of *Zephyrarchaea marae* Rix & Harvey, 2012 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Zephyrarchaea marae Rix & Harvey, 2012.kml - Download file (62.00 kb)

Suppl. material 30: Distribution of *Aurecocrypta lugubris* Raven, 1994 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Aurecocrypta lugubris Raven, 1994.kml - Download file (32.84 kb)

Suppl. material 31: *Mandjela fleckeri* Raven & Churchill, 1994 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Raven & Churchill, 1994.kml - Download file (4.04 kb)

Suppl. material 32: Distribution of *Nihoa kaindi* Raven, 1994 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Nihoa kaindi Raven, 1994.kml - Download file (3.95 kb)

Suppl. material 33: Distribution of *Clubiona bifissurata* Kritscher, 1966 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Clubiona bifissurata Kritscher, 1966.kml - Download file (4.04 kb)

Suppl. material 34: Distribution of *Clubiona frisia* Wunderlich & Schuett, 1995 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Clubiona frisia Wunderlich & Schuett, 1995.kml - Download file (206.48 kb)

Suppl. material 35: Distribution of *Clubiona pyrifera* Schenkel, 1936 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Clubiona pyrifera Schenkel, 1936.kml - Download file (10.86 kb)

Suppl. material 36: Distribution of *Apochinomma nitidum* (Thorell, 1895) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Apochinomma nitidum (Thorell, 1895).kml - Download file (156.14 kb)

Suppl. material 37: Distribution of *Corinna venezuelica* (Caporiacco, 1955) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Corinna venezuelica (Caporiacco, 1955).kml - Download file (4.04 kb)

Suppl. material 38: Distribution of *Acantheis variatus* Thorell, 1890 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Acantheis variatus Thorell, 1890.kml - Download file (4.03 kb)

Suppl. material 39: Distribution of *Phoneutria keyserlingi* (F. O. P.-Cambridge, 1897) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Phoneutria keyserlingi (F. O. P.-Cambridge, 1897).kml - Download file (22.03 kb)

Suppl. material 40: Dsitribution of *Vulsor sextus* Strand, 1907 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Vulsor sextus Strand, 1907.kml - Download file (4.04 kb)

Suppl. material 41: Distribution of *Stasimopus nanus* Tucker, 1917 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Stasimopus nanus Tucker, 1917.kml - Download file (7.59 kb)

Suppl. material 42: Distribution of *Ilisoa hawequas* Griswold, 1987 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Ilisoa hawequas Griswold, 1987.kml - Download file (4.04 kb)

Suppl. material 43: Distribution of *Argenna polita* (Banks, 1898) doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Argenna polita (Banks, 1898).kml - Download file (4.03 kb)

Suppl. material 44: Distribution of *Rhode baborensis* Beladjal & Bosmans, 1996 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Rhode baborensis Beladjal & Bosmans, 1996 .kml - Download file (10.99 kb)

Suppl. material 45: Distribution of *Eresus kollari* Rossi, 1846 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Eresus kollari.kml - Download file (60.69 kb)

Suppl. material 46: Distribution of *Tricalamus jiangxiensis* Li, 1994 doi

Authors: Cardoso, P.
Data type: Distribution
Filename: Tricalamus jiangxiensis Li, 1994.kml - Download file (7.39 kb)